REMARKS

Headings are being added to the specification as requested by the Examiner. However, applicant would respectfully remind the Examiner that such headings are a matter of choice, not a requirement of the statute, rules or MPEP.

Since many of the original claims contain process limitations, the claims of record are being cancelled and replace by Claims 68 - 81 which are written in the proper form as process claims. In addition to eliminating the formal issues noted by the Examiner in connection with some of the original claims, Claims 68 - 81 define the invention in a way which clearly distinguishes it over the are cited by the Examiner.

Claim 68 is directed to semiconductor wafer treatment process comprising the steps of introducing a gas into a reaction chamber through a segmented shower head, independently controlling the flow of gas through different segments of the shower head to adjust the processing rates in areas of a wafer corresponding to the different segments, measuring the thickness of the wafer in the different areas, and adjusting the flow of gas through the segments in accordance with the thickness measurements to produce a wafer of predetermined thickness and uniformity. This combination of steps is neither found in nor suggested by the references.

Claims 69 - 72 depend from Claim 68 and are directed to patentable subject matter for the same reasons as their parent claim.

Claim 69 further distinguishes in calling for the step of increasing the flow of etchant gas to at least one of the segments to provide an increased etch rate in the corresponding area(s) of the wafer, and Claim 70 calls for the step of adding a diluent or etching suppressant gas to the processing gas to decrease the etch rate in at least one section of the wafer.

Claim 71 calls for the steps of adding a diluent or etching suppressant to the processing gas, and decreasing the flow of etchant gas through at least one of the segments to provide a decreased etch rate in the corresponding area(s) of the wafer.

Claim 72 further distinguishes in calling for the step of interrupting the gas flow through at least one of the segments to provide a decreased etch rate in the corresponding area(s) of the wafer.

Claim 73 is directed to a semiconductor wafer etching process and distinguishes over the references in calling for the steps of introducing an etching gas into a reaction chamber through a segmented shower head, independently controlling the flow of the etching gas through different segments of the shower head to adjust the etch rates in areas of a wafer corresponding to the different segments, measuring the thickness of the wafer in the different areas after only a portion of the material has been removed in order to determine the effectiveness of the current flow rates on etch uniformity, adjusting the flow of gas through the segments in accordance with the thickness measurements to control the etch rates in the different areas, and further etching the wafer with the adjusted flow rates. This combination of steps is neither found in nor suggested by the references.

Claim 74 is directed to a semiconductor wafer etching process comprising the steps of introducing an etching gas into a reaction chamber through a segmented shower head, independently controlling the flow of the etching gas through different segments of the shower head to adjust the etch rates in areas of a wafer corresponding to the different segments, measuring the thickness of the wafer in the different areas after etching is complete to determine the effectiveness of the flow rates on etch uniformity, and adjusting the flow rates in the different areas in accordance with the measured thicknesses for use on subsequent wafers. This combination of steps is neither found in nor suggested by the references.

Claim 75 is directed to a process of depositing a film on a semiconductor wafer comprising the steps of introducing a gas into a reaction chamber through a segmented shower head, independently controlling the flow of gas through different segments of the shower head to adjust film deposition rates in areas of a wafer corresponding to the different segments, measuring the thickness and uniformity of the film in the different

areas, and adjusting the flow of gas through the segments in accordance with the measurements to compensate for non-uniformities in the film deposited on the wafer. This combination of steps is neither found in nor suggested by the references.

Claims 76 - 79 depend from Claim 75 and are directed to patentable subject matter for the same reasons as their parent claim.

Claim 76 further distinguishes in specifying that the gas flow through at least one of the segments is decreased to decrease the deposition rate in the corresponding area(s) of the wafer.

Claim 77 calls for the additional step of adding a diluent to the gas in at least one of the segments to decrease the deposition rate in the corresponding area(s) of the wafer, and Claim 78 calls for the steps of adding a diluent to the gas, and decreasing the flow gas in at least one of the segments to decrease the deposition rate in the corresponding area(s) of the wafer.

Claim 79 calls for the step of interrupting the gas flow through at least one of the segments to provide a decreased deposition rate in the corresponding area(s) of the wafer.

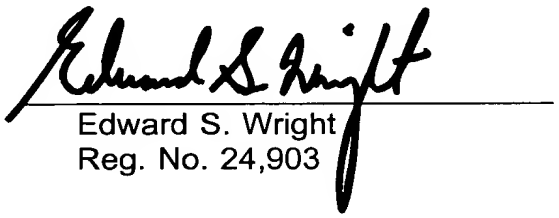
Claim 80 is directed to a process of depositing a film on a semiconductor wafer, and distinguishes over the prior art in calling for the steps of introducing a gas into a reaction chamber through a segmented shower head, independently controlling the flow of the etching gas through different segments of the shower head to adjust deposition rates in areas of a wafer corresponding to the different segments, measuring the thickness of the wafer in the different areas after only a portion of the film has been deposited in order to determine the effectiveness of the current flow rates on film uniformity, adjusting the flow of gas through the segments in accordance with the thickness measurements to control the deposition rates in the different areas, and depositing additional film material on the wafer with the adjusted flow rates. This combination of steps is neither found in nor suggested by the references.

Claim 80 is directed to a process of depositing a film on a semiconductor wafer, and distinguishes over the prior art in calling for the steps of introducing an etching gas into a reaction chamber through a segmented shower head, independently controlling the flow of the etching gas through different segments of the shower head to adjust deposition etch rates in areas of a wafer corresponding to the different segments, measuring the thickness of the wafer in the different areas after etching is complete to determine the effectiveness of the flow rates on deposition uniformity, and adjusting the flow rates in the different areas in accordance with the measured thicknesses for use on subsequent wafers. This combination of steps is neither found in nor suggested by the references.

With this amendment, it is respectfully submitted that Claims 68 - 81 are directed to patentable subject matter and that the application is in condition for allowance.

The Commissioner is authorized to charge any fees required in this matter, including extension fees, to Deposit Account 50-2319, Order No. A-70179/ESW.

Respectfully submitted,



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